



LED TURN SIGNAL MOD FOR ALL 2011-15 KIA OPTIMA'S WITH LED TAILS

Materials List:

LED turn signal modules

Blue and Red butt connectors

Approx 16ft of 16-18 gauge wire (preferably 2 colors 8ft each)

Wire cutter/strip/crimp tool

Several Zip ties

45-60 minutes of free time

Prep:

Remove access covers from left and right side of the trunk liner to access the wiring plugs on the back of your LED lights.

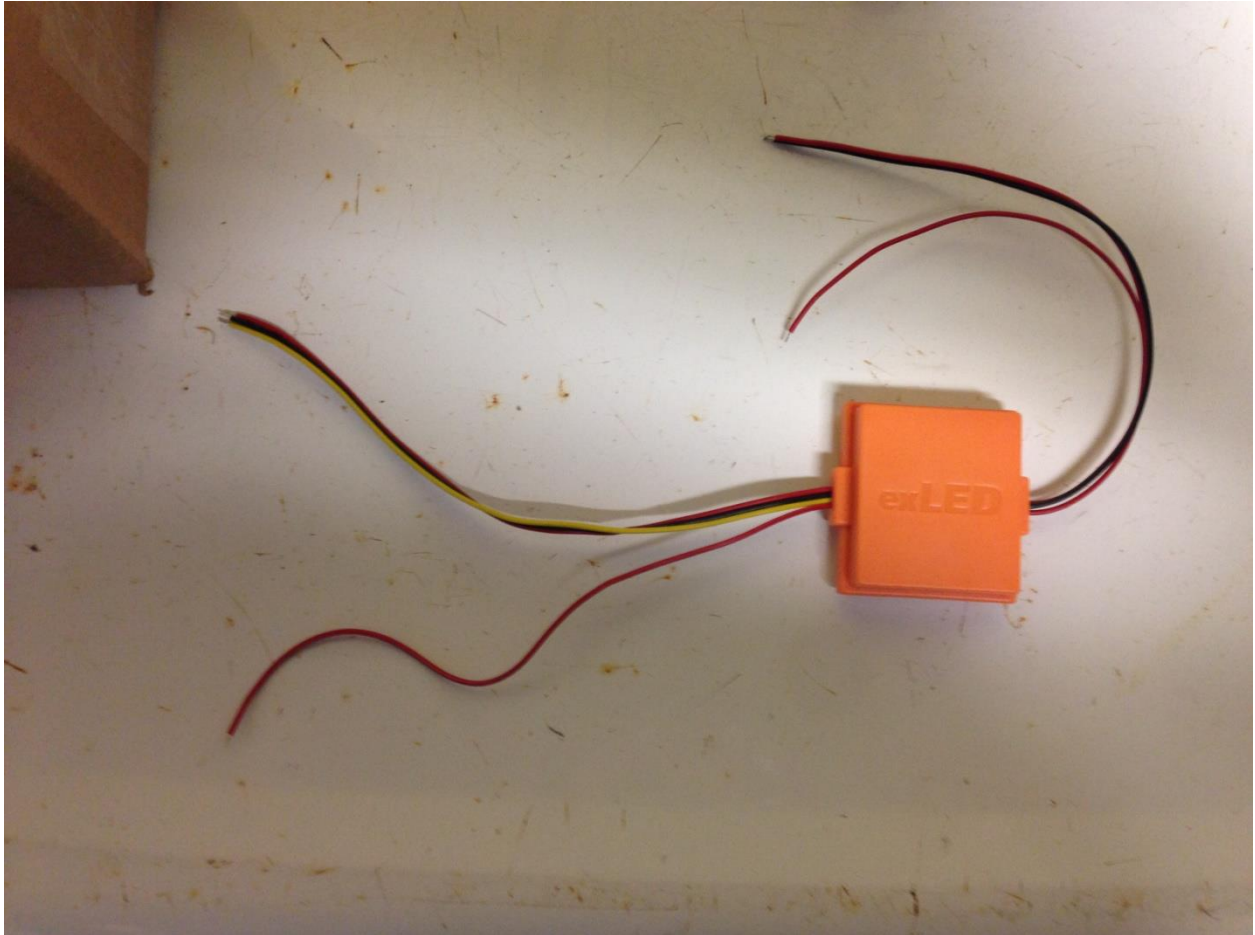
Remove the trunk lid liner to access the trunk LED plugs. Don't forget the 2 metal screws that are located inside the pull down handle!

Locate all 4 plugs left outer, left inner, right inner, right outer. Remember you have 4 distinct LED lights on the back of your optima!

Strip approx 4 inches of the black outer protective coating from factory harness to expose the individual wiring. Will require a sharp knife, and steady hands.

You are ready to begin your install.

Start by getting out your ExLED module. Notice how there are 4 wires coming out of the "EX" side, and 3 wires coming out of the "LED" side. Notice the word "exLED" on the case, this is how we will tell which side is which for the rest of the DIY. The "ex" side is the input side from the vehicle side of the harness. The "LED" side is the output to the lights.



On the input "ex" side, there you will notice that 3 wires are in a bundle with 1 red wire by itself. This is intentional.

Yellow wire = Turn Signal Input

Black wire = Ground Input

Red wire in bundle = Parking Light Input

Red wire by itself = Brake Input Wire

On the output "LED" side there is 2 wires in a bundle with 1 red wire by itself. This is intentional.

Black wire = Ground Output

Red wire with bundle = Parking Light Output

Red wire by itself = Brake Output Wire

Now that we have a firm grasp of what is what on the module, let's proceed with the install.

Left outer LED:

Unplug your LED taillight. If you prepped out your harness properly, you should be able to clearly see 5 wires. They are:

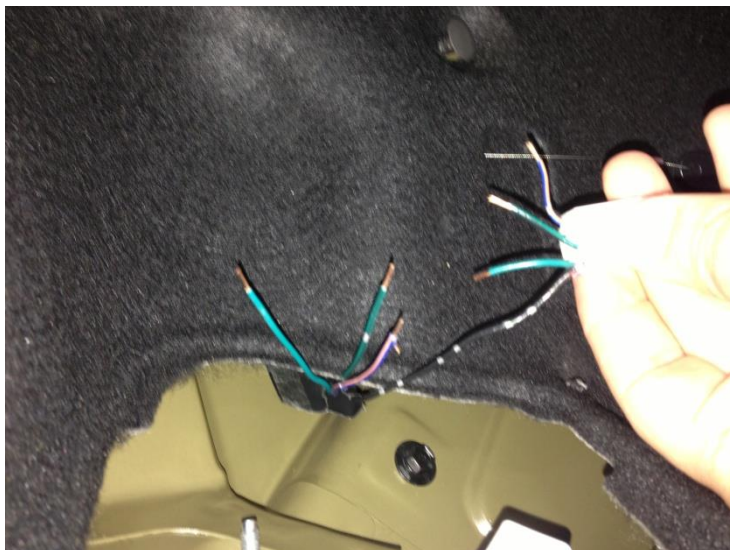
2 Black wires = Grounds

Green w/black stripe = Parking Light

Solid Green = Brake Light

Blue w/orange stripe = Turn Signal Light

You will need to cut all the 1 wire **EXCEPT** 1 of the black wires. It doesn't matter which. Make sure you when you cut you **leave at least 1.5-2 inches of wire** coming out of the plug for easier crimping!!



Now, I chose to use butt connectors for a clean, hassle free connection. You may solder, use crimps, etc.

For the **input** side I am using the **RED** connectors. Connect the input wire from the module (the "ex" side) to the vehicle side of the wiring, not the connector side. Connect as follows:

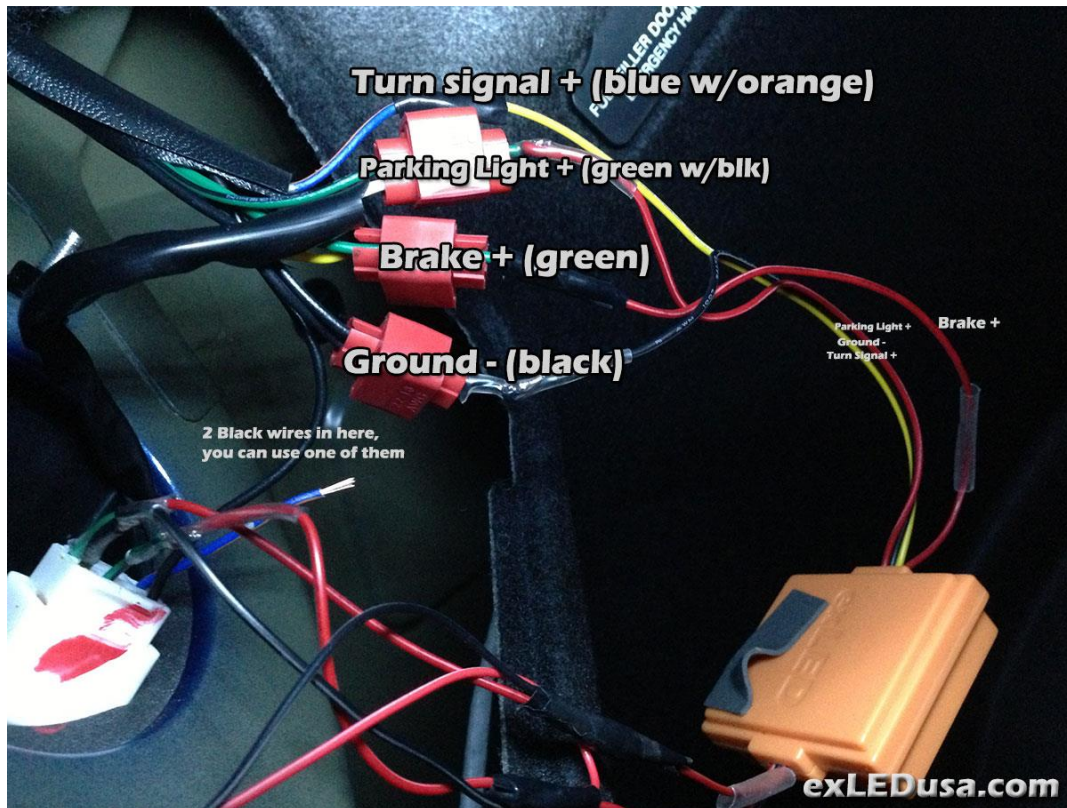
Module Yellow >> Vehicle Blue w/orange Stripe (Turn Signal)

Module Red in bundle >> Vehicle Green w/black stripe (Parking Light)

Module Black >> Vehicle Black (Ground)

Module Red by itself >> Vehicle Solid Green (Brake)

Make sure you get clean, solid connections! Take your time!



Now we are going to do the output side of the module (LED). This side is a little different. You will not be using the turn signal wire of the LED plug, because we are eliminating the OEM orange turn signal. On this side you will need to run 2 jumper wires approx 4 ft each for ease of routing. You will need to

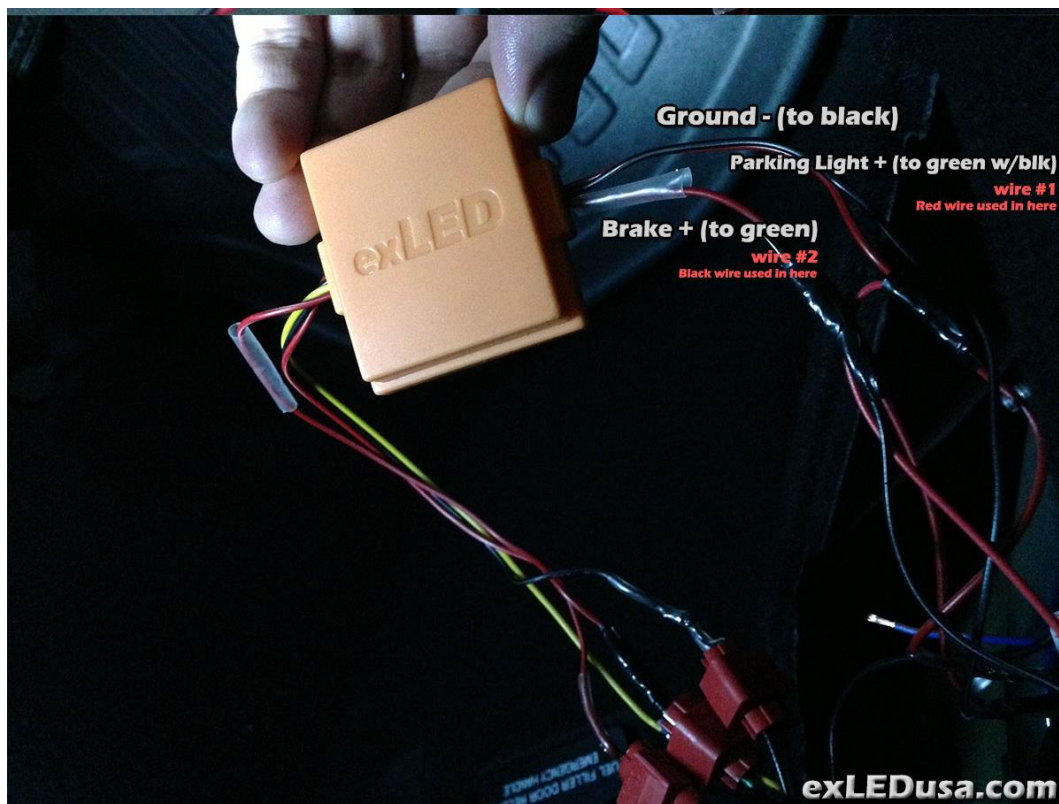
run 2 wires up to the **LEFT INNER** trunk LED light. A brake light wire and a parking lights wire. This is so the trunk LED matches the outer LED in appearance while functioning. This is easier if you use 2 different colors for easier identification of wire function. Connect wires as follows:

Module black >> LED Black (Ground)

Module Red in bundle >> LED Green w/black stripe (Parking Light) ; Run jumper wire from this connection to LEFT INNER LED

Module Red by itself >> LED Solid Green (Brake Light); Run jumper wire from this connection to LEFT INNER LED

I used red butt connector for the ground wire, and blue connectors for the 2 red wires. Blue connector made it easier to get to wires in 1 side for the jumper connection.

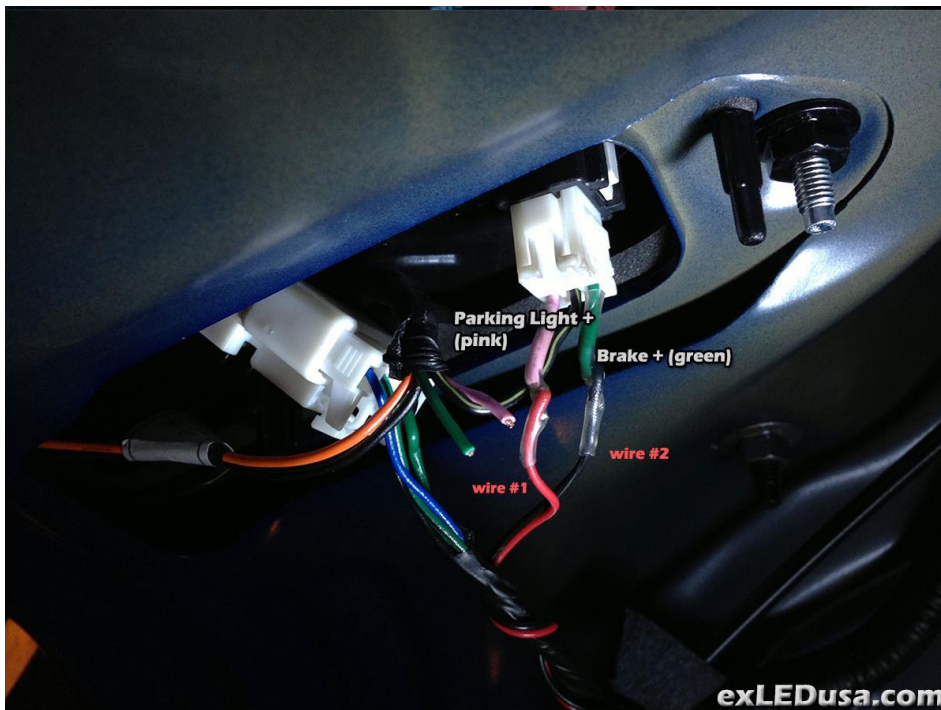




Route the Jumper wires up to the trunk lid. Look at the LEFT INNER trunk LED and locate to wires. 1 pink and 1 solid green. Cut both wires just like you did on the lower plug making sure to leave enough excess for easy crimping. Note my jumper wires were yellow and white, but in the picture below are black and red (exLEDusa pic) they are the same. Connect wires as follows:

Jumper wire from module Red in bundle >> LED Pink wire (Parking Light)

Jumper wire from module Red by itself >> LED Green wire (Brake Light)



You are now done with the Left side of the car. On to the right.

Start but looking the **Right Outer** LED plug. If you have prepped properly you should clearly see **5** wires.

They are:

2 Black Wires = Ground

Green Wire = Brake

Red w/orange stripe = Turn Signal

Brown /black stripe = Parking Light

Cut the harness same as other side, leaving excess easy crimping. Remember to cut only **1 of the black wires!** Connect input side of module "ex" to the following wires:

Module Black Wire >> Vehicle Black (Ground)

Module Red wire with bundle >> Vehicle Brown w/black stripe (Parking Light)

Module Yellow Wire >> Vehicle Red w/orange stripe (Turn Signal)

Module Red wire by itself >> Solid Green Wire (Brake)

Moving to the output side of the module (LED), remember to run your jumper wire to the **RIGHT INNER LED** light exactly the same way you just did the left side. Connect output wires as follows:

Module Black >> LED Black (Ground)

Module Red with bundle >> Vehicle Brown w/black stripe (Parking Light) Run jumper wire from this connection to LEFT INNER LED

Module Red wire by itself >> Solid Green Wire (Brake) Run jumper wire from this connection to LEFT INNER LED

Run jumper wire up to the trunk lid and connect the same way as you did the left side inner. As follows:

Jumper wire from module Red in bundle >> LED Green wire (Parking Light)

Jumper wire from module Red by itself >> LED Pink wire (Brake Light)

Test your LED lights out to make sure it is working as it should. Secure all loose wires with zip ties.

Reinstall all removed covers and liners. Enjoy your awesome LED taillight mod!

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